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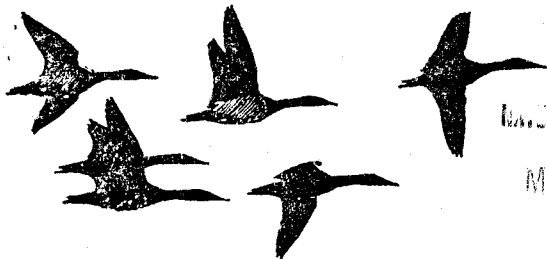
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HUNTER USE AND HARVEST ON PUBLIC WATERFOWL AREAS DURING 1978

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Abstract: Hunters were surveyed on 30 public waterfowl hunting areas during the 1978 season. Waterfowl hunters harvested an estimated total of 64,565 ducks on the 30 public areas. The total number of hunter-trips during the season was estimated at 76,591. This resulted in an average daily success rate of .84 ducks per trip for the 1978 season. When compared to the 1977 season, this represents a 21 percent increase in harvest, a 3 percent increase in hunter-trips, and a 20 percent increase in success rate. However, during the 1977 season 40 areas were surveyed, therefore valid comparisons of total harvest and total hunter intensity cannot be made with the results of the 1978 harvest survey. Hunting success in the Illinois and Mississippi River Valleys was good throughout most of the season. Food conditions, both natural and planted, were fair to good on most of the state controlled areas and most areas experienced good waterfowl utilization.

INTRODUCTION

Waterfowl harvest and hunter use have been monitored for many years on those public hunting areas in Illinois where check stations exist. In 1973 a survey system was initiated to include many other public waterfowl hunting areas in Illinois. During the 1977 season hunting use and harvest were surveyed on 40 public waterfowl hunting areas. In 1978 the number of areas surveyed was reduced to 30. Only those areas where check stations were in operation or where harvest data were gathered by sampling techniques were included in the survey. All areas where harvest and hunter use data were previously based on estimate alone were dropped from the survey results.

Collection of harvest data throughout the waterfowl season is often a tedious, thankless task. Many people throughout the state are to be commended for their contribution of many hours of time and effort conducting car counts, making bag checks or operating check stations. We wish especially to thank the area and district wildlife managers and the personnel of the Division of Public Lands, particularly site managers and their staffs. The U.S. Forest Service is also recognized for making available their estimates of harvest for Oakwood Bottoms.

METHODS

Methods and techniques for sampling the various areas were similar to those used in previous years (Roetker and Anderson 1977). These include check stations (15 areas), car counts combined with bag checks (3 areas) and car counts combined

with windshield cards (13 areas). One area, Rend Lake, combined bag checks with both car counts and windshield cards. Techniques utilized for each of the other areas are identified in Table 1.

Because of unknown bias and sampling error, no effort was made to adjust the data to compensate for these factors. Description of projection formulas and procedures are not included in this report, however this information is available at the Union County Field Office.

Waterfowl population data were obtained by aerial inventories. The Mississippi River was censused weekly from Rock Island to Alton and the Illinois River was censused weekly from DuPage to the mouth. Cooling reservoirs and other areas in northeastern Illinois were censused every other week as were reservoirs in southern Illinois and the lower Mississippi River from St. Louis to Cairo. Robert Crompton of the Illinois Natural History Survey conducted the waterfowl inventories. Weekly counts of the Illinois and Mississippi River Valleys were financed by the DOC and counts in southern Illinois were financed by the U.S. Army Corps of Engineers.

For the second consecutive year, the State of Illinois was divided into a Northern Duck Zone and a Southern Duck Zone for the purposes of hunting ducks and coots in 1978. The boundary separating the north and south zones was changed in 1978. In 1977 the line separating the zones was the southern boundary of the counties through which U.S. Highway 50 passes. The north-south boundary was changed to U.S. Highway 50 for the 1978 season (Fig. 1). Duck hunting was legal in the Northern Duck Zone during the 50 days from October 19 to December 7, 1978. The season began in the Southern Duck Zone on November 2 and continued through Dec. 21. Four of the 30 public waterfowl areas surveyed (Rend Lake, Oakwood Bottoms, Mermet and Baldwin) are located in the Southern Zone.

RESULTS AND DISCUSSION

Hunter Use

Duck hunters made an estimated 76,591 trips to the 30 public waterfowl hunting areas surveyed during the 1978 season. This was a 3 percent increase over the number of hunter-trips made to 40 areas surveyed in 1977. Of the 30 areas surveyed 18 showed an increase in hunter use from last year and 12 showed a decrease (Table 1). Rend Lake, Carlyle Lake, Batchtown and Oakwood Bottoms ranked highest in number of hunters during the 1978 season.

Harvest

The 1978 harvest of 64,565 ducks on 30 public areas represents a substantial 21 percent increase over the harvest reported on 40 areas last year. Rend Lake led with the greatest number of ducks harvested followed by Batchtown and Carlyle Lake. These three areas contributed to 40 percent of the total harvest on the 30 public areas surveyed. Twenty-two of the areas showed an increase in harvest over the 1977 season and only eight areas showed a decreased harvest. The most notable increases in harvest on individual areas were at Spring Lake where harvest increased 453 percent over last year and Batchtown where harvest increased 349 percent (Table 1).

Hunter Success

Hunter success on public areas was 0.84 ducks per hunter-trip. This represents a 20 percent increase in success rate over the 1977 season and a 7 percent decrease

from the 1976 success rate. Spring Lake reported the highest success rate with 1.30 ducks per hunter trip. Other areas reporting success rates exceeding a duck per trip were Batchtown (1.24), Pool 12 (1.21), Baldwin (1.10), Godar-Diamond (1.04) and DePue Area (1.03). Mermet reported the greatest increase in hunter success rate over the previous 1977 season (146 percent). Spring Lake also reported a significant 136 percent increase in hunter success rate. A total of 23 areas reported increased success rates over last season and only 7 reported decreased success rates.

Populations and Migrations

Peak numbers of mallards and black ducks were inventoried along the Illinois and Mississippi Rivers on November 29, 1978 (Figure 2). At this time, 2,376,365 mallards and black ducks were censused. This represents a 42 percent increase over the peak population recorded in 1977 and a 113 percent increase over the 1976 peak population. The 1978 population high also represents a 138 percent increase over the 1968-72 average peak mallard and black duck population (Kennedy and Arthur 1973). During the last week of the duck season in the Northern Zone over 1,765,000 mallards and black ducks were still present along the Mississippi and Illinois Rivers.

Peak numbers of other species of dabbling ducks were recorded on November 14 when 287,605 birds were inventoried. This was a 19 percent increase over the 1977 peak and is 157 percent greater than the average for the peak counts for these species during the years 1968 through 1972 (Kennedy and Arthur 1973).

The greatest number of diving ducks was inventoried in the Mississippi and Illinois River Valleys on November 29. At this time slightly over 666,000 divers were counted. Over 600,000 divers had been present on river areas since Nov. 14. The 1978 peak diver count was 48 percent greater than the peak count reported in 1977.

Waterfowl numbers on southern Illinois areas were also increased over last year (Table 2). Carlyle Lake, with a peak duck population of 180,800 on December 1 sustained the greatest waterfowl utilization of the areas in southern Illinois. This number was nearly 100,000 more than the peak waterfowl count in 1977. Waterfowl numbers at Rend Lake did not reach the peak recorded in 1977 but numbers of waterfowl at Baldwin nearly doubled. Numbers of ducks at Sangchris Lake and Shelbyville Lake were comparable to last year.

Observations and Conclusions

In general 1978 was a successful season for waterfowl hunters throughout Illinois. Waterfowl were present in above average numbers throughout the Illinois and Mississippi River Valleys and weather conditions were favorable for hunting throughout most of the season. Mild weather early in the season caused a slow start, however, colder temperatures and increased migration into the state soon improved hunter success. Several days were lost due to freeze-up at the end of the season on some areas in the northern zone, but the overall harvest was good for the 1978 season.

LITERATURE CITED

- Kennedy, D.D. and G.C. Arthur. 1973. Criteria for selection of Illinois waterfowl season dates. Illinois Dept. Conservation, Migratory Bird Sect., Periodic Rpt. No. 5. 32pp.
- Roetker, F., and W. L. Anderson. 1977. Hunter use and harvest on public waterfowl areas during 1977. Illinois Dept. Conservation, Migratory Bird Sect., Periodic Rpt. No. 17. 8pp.

Table 1. Hunter Use, Harvest and Success from Public Waterfowl Areas in Illinois during 1978.

Area	Hunting Pressure			Harvest			Success Per Hunter Efforts		
	Hunters	% Change From 1977	Rank	Harvested	% Change From 1977	Rank	Average Daily Success Ratio	% Change From 1977	Rank
Carlyle ²	9,200	-16	2	7,498	-19	3	.81	-04	17
Rend Lake ^{2,3}	12,622	+51	1	9,060	+04	1	.78	-25	18
Oakwood Bottoms ²	3,850	-19	4	2,044	+03	10	.53	+20	28
Stump Lake ¹	3,297	-12	6	2,685	+75	6	.81	+98	16
Batchtown ¹	7,242	+100	3	8,951	+349	2	1.24	+125	2
Godar-Diamond ¹	3,397	+17	5	3,546	+95	4	1.04	+68	5
Calhoun Point ¹	2,236	-20	10	1,376	+26	16	.62	+59	26
Potters Marsh ³	2,186	-21	11	1,910	-11	12	.87	+14	13
Pool 18 ³	2,934	+14	7	2,560	+12	7	.87	-02	14
Sarganois ¹	2,422	+04	9	2,362	+31	9	.97	+39	8
Glades ¹	2,781	+23	8	2,756	+157	5	.99	+111	7
Sangchris ¹	2,150	+14	12	1,019	+33	20	.47	+15	30
Marshall County ¹	2,134	+26	14	1,417	+47	15	.66	+16	24
Mermet ¹	1,949	+20	15	1,880	+199	13	.96	+146	9
Woodford County ¹	2,152	+32	13	1,942	+52	11	.90	+15	10

1. Check station
2. Car counts/bag check
3. Car counts/mail cards

Table 1. Hunter Use, Harvest and Success from Public Waterfowl Areas in Illinois during 1978 (Continued).

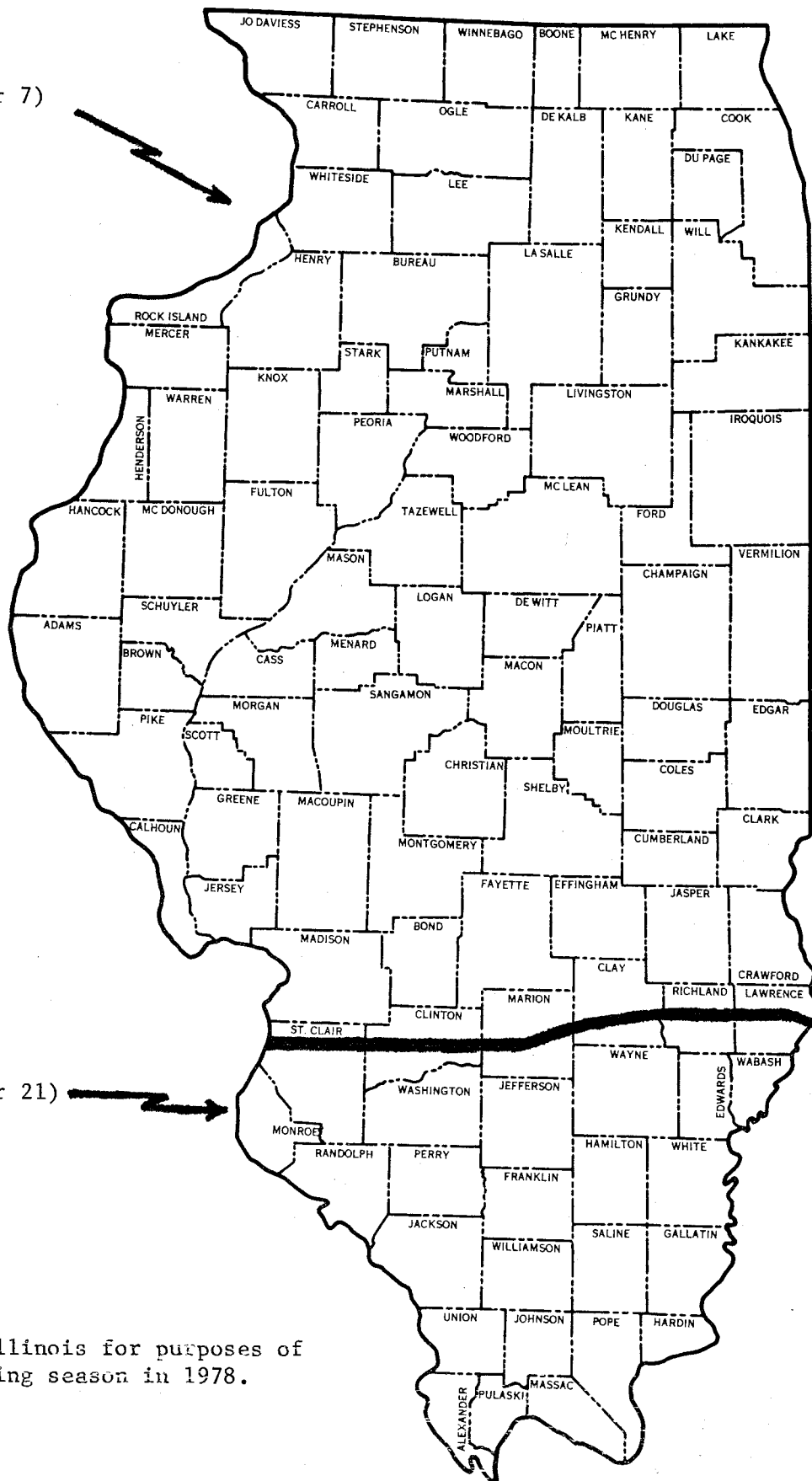
Area	Hunting Pressure		Harvest		Success Per Hunter Efforts	
	Hunters	% Change From 1977	Rank	Harvested	% Change From 1977	Rank
Pool 13 ³	1,627	+04	17	1,438	-38	14
Pool 17 ³	1,277	-13	22	1,148	-17	17
Pool 16 ³	1,341	-06	19	1,020	-03	19
Rice Lake ¹	1,321	-07	20	638	+57	25
Baldwin ⁵	863	-14	25	948	+12	21
Sperland ³	684	-26	26	468	+57	29
Will County ³	867	-03	24	495	+27	28
Shelbyville ³	1,153	+38	23	839	+45	23
Spring Lake ¹	1,937	+74	16	2,522	+453	8
Anderson Lake ¹	1,351	+68	18	1,035	+86	18
HSL-Madison Co. ¹	1,307	+78	21	861	+168	22
Grass Lake ³	614	+07	28	513	-43	27
Wm. Powers ³	589	+13	29	403	-14	30
Pool 12 ³	486	-03	30	588	+34	26
DePue Area ¹	622	+85	27	643	+115	24
Total	76,591	+03		64,565	+21	
					.84	
					+20	

1. Check Station
2. Car counts/bag check
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Table 2. Aerial inventories of ducks on southern Illinois areas during 1978.

Area	10/27	11/08	12/01	12/13	01/08/79
Carlyle	19,090	89,665	180,800	106,890	235
Rend Lake	9,350	15,180	19,185	11,125	965
Shelbyville	1,840	670	3,815	170	---
Baldwin	9,175	19,410	40,660	21,375	12,565
Sangchris	5,690	26,455	63,025	42,855	18,025

NORTHERN DUCK ZONE
(October 19 - December 7)



SOUTHERN DUCK ZONE
(November 2 - December 21)

Figure 1. Zones in Illinois for purposes of setting the duck hunting season in 1978.

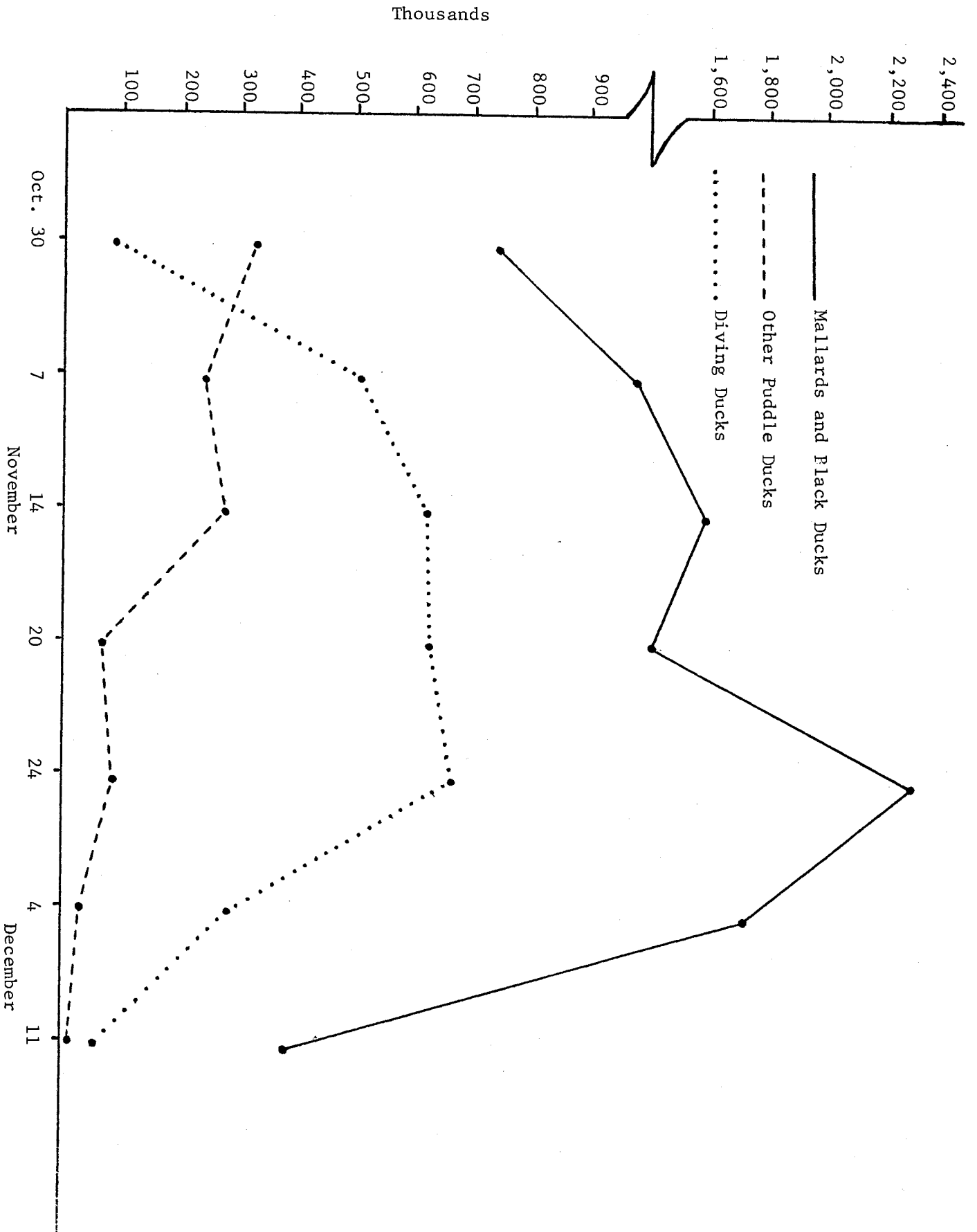


Figure 2. Populations and progression of migration on the Illinois and Mississippi Rivers through the 1978 hunting season